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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,985	02/27/2004	Michael Wimmer	FA1193USNA	6843

23906 7590 03/28/2006

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WILMINGTON, DE 19805

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/788,985

Applicant(s)

WIMMER ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>022704</u> . | 6) <input type="checkbox"/> Other: _____  |

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, there is no antecedent basis for "the coated electrical steel sheets". It is unclear if claim 1 requires each steel sheet to be coated with the composition of step (a).

In claim 2, which components are "the further components"?

In claim 4, the claimed solids content is ambiguous since there is no antecedent basis for "the finished composition".

- 3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 4) **Claims 1-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 723 (JP 11-162723) in view of Japan 574 (JP 2000-34574) and optionally Young (US 5500462).**

Japan 723, directed to manufacturing a core for a motor or a transformer, discloses providing an AQUEOUS COMPOSITION comprising:

100 parts epoxy resin based on bisphenol-A-type,

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1-40 parts hardening agent such as phenol resin (based on 100 parts epoxy resin),

e.g. 1-40 parts latent curing agent such as dicyandiamide (3-100 parts lateral curing agent based on 100 parts phenolic resin)

**water;**

**additives** such as silica, pigments, "membrane formation assistant" and "dispersibility improver";

coating steel sheets with the composition; drying the coated steel sheets by heating to 100-300 degrees C; assembling the dried coated sheets; and applying heat and pressure to the assembled dried coated sheets to cure the composition and thereby laminate / bond the sheets together. Japan 723 teaches, for example, laminating by heating to 200 degrees C as shown in figure 2 and applying a pressure of 10 kgf/cm<sup>2</sup> (0.98 N/mm<sup>2</sup>). Japan 723 teaches that excellent bond strength at elevated temperature and good corrosion resistance is obtained. See abstract and machine translation.

As to claim 1 (part D), it would have been obvious to one of ordinary skill in the art to provide Japan 723's composition such that it comprises 0.1-120 parts flow agent since (1) Japan 723 teaches that the aqueous composition containing epoxy resin may contain "membrane formation assistant" / "dispersibility improver" and (2) Japan 574, also directed to using an aqueous epoxy composition to manufacture a core for a motor or transformer, suggests adding 3-20 parts a nonion surfactant such as polyethylene glycol to acquire excellent coating stability and corrosion resistance.

As to claim 1 (parts A and B), Japan 723 teaches using 100 parts epoxy resin and suggests, for example, 1-40 parts dicyandiamide.

As to claim 1 (part C), the claimed amount of 0.1 to 10 parts additive would have been obvious and could have been determined without undue experimentation in view of Japan 723's teaching that additives such as pigments and silica (rust proofing additive) may be included in the composition.

As to claim 1 (part E), the claimed amount of 50-200 parts water would have been obvious and could have been determined without undue experimentation in view of (1) Japan 723's teaching to use water with the epoxy to form an aqueous composition that may for example be applied with a thickness of 1-12 micrometers using roll coat method, dip method or spray method and optionally (2) Young's suggestion to form a stable aqueous composition, which may be used in the manufacture of laminates, such that it comprises epoxy resin, dicyanamide, and water with a 30-80% solids content and so that a film of the aqueous composition may be cast.

As to claim 2, it would have been obvious to one of ordinary skill in the art to mix the epoxy resin with water and then add the dicyandiamide and the further components in view of (1) Young's suggestion to mix epoxy resin with water and then add dicyandiamide with or without surfactant to form a stable water born epoxy resin dispersion containing dicyandiamide and (2) Young's teaching that additives may be added prior to completion of cure.

As claims 3 and 4, the claimed epoxy resin content of 40-70 wt% / solids content of 30-60% would have been obvious and could have been determined without undue

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experimentation in view of (1) Japan 723's teaching to use water with the epoxy to form an aqueous composition that may for example be applied with a thickness of 1-12 micrometers using roll coat method, dip method or spray method and optionally (2) Young's suggestion to form a stable aqueous composition, which may be used in the manufacture of laminates, such that it comprises epoxy resin, dicyanamide, and water with a 30-80% solids content and so that a film of the aqueous composition may be cast.

As to claim 5, the claimed number average molar mass of 700-5000 and epoxy equivalent weight of 400-6000 would have been obvious in view of (1) Japan 723's teaching to use epoxy resin in the aqueous composition for laminating steel sheets for a motor / transformer, (2) Japan 574's suggestion to use epoxy having an epoxy equivalent of 200-5000 for an aqueous composition for laminating steel sheets for a motor / transformer and optionally (3) Young et al's suggestion to use epoxy resin having a molecular weight of 200-6000 and an epoxide equivalent of for example 525-550.

As to claim 6, Young suggests using micronized dicyandiamide having a particle size of less than 5 microns.

As to claim 7, Japan 574 suggests using polyethylene glycol.

As to claim 9, it would have been obvious to apply Japan 723's composition on unpretreated and uncoated electric steel sheet as a one layer coating with a thickness of 3-8 microns since Japan 723 suggests applying the composition on a steel sheet

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(paragraph 17 of machine translation) at a thickness of 1-12 microns (paragraph 33 of machine translation).

As to claim 10, Japan 723 teaches drying at 100-300 degrees C such as 130-230 degrees C.

As to claim 11, Japan 723 teaches laminating by for example heating to 200 degrees C and applying a pressure of about 1 N/mm<sup>2</sup>.

5) **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 723 in view of Japan 574 and optionally Young as applied above and further in view of Stark (US 4307212) or Kohn et al (US 2962410).**

As to claim 8, it would have been obvious to one of ordinary skill in the art to additionally use an organo-metallic compound as claimed in view of either (1) Stark's suggestion to add an ortho-titanic ester such as tetraisopropyl titanate to a curable epoxy resin composition to initiate cure or (2) Kohn's suggestion to add an ortho-titanic ester such as tetraisopropyl titanate to a curable epoxy resin composition to provide better temperature stability.

#### Remarks

6) Applicant's election with traverse of Group I process claims 1-11 in the reply filed on 12-27-05 is acknowledged. The traversal is on the ground(s) that class 428 subclass 416 should be searched process claims 1-11. This is not found persuasive because the search for process claims 1-11 does not require a require a search of class 428 subclass 416. Furthermore, the search for the product claim 11, but not process claims

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1-11, includes a search for materially different methods in which the sheets are assembled without using water and/or coating before assembling.

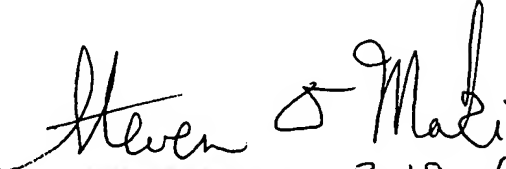
7) No claim is allowed.

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
March 18, 2006

  
STEVEN D. MAKI  
PRIMARY EXAMINER  
3-18-06